

What is claimed is:

1. A method of embedding first and second digital watermark components in a signal having a plurality of channels, said method comprising:

 embedding the first digital watermark component in a first of the plurality of channels; and

 embedding the second digital watermark component in a second of the plurality of channels,

 wherein the second digital watermark component is embedded in the second of the plurality of channels so as to reduce humanly perceptible artifacts that are associated with the first digital watermark component in the first channel.
2. The method according to claim 1, wherein the plurality of channels comprises color channels and at least one black channel.
3. The method according to claim 2, wherein the color channels comprise cyan, magenta and yellow.
4. The method according to claim 3, further comprising the steps of embedding the digital watermark component in at least a third channel and a fourth channel.

5. The method according to claim 4, wherein the first channel, third channel and fourth channel respectively comprise the cyan, magenta and yellow, and the second channel comprises black.

6. The method according to claim 1, wherein the first and second digital watermark components are embedded so as to be spatially registered with one another.

7. A method of embedding a steganographic signal in an image, wherein the image comprises a first color plane, a second color plane, and a third color plane, said method comprising:

embedding a steganographic signal in the first color plane and in the second color plane, wherein the embedding affects a first spatial region of the image in both the first color plane and the second color plane;

embedding a steganographic signal in the third color plane, wherein the embedding in the third color plane affects the first spatial region so as to reduce visual artifacts that are attributable to the embedding in the first and second color planes.

8. The method of claim 7, wherein the embedding in the first, second and third color planes are spatially registered.

9. The method of claim 7, wherein the embedding utilizes at least one transform domain.

10. The method of claim 7, wherein the steganographic signal in the first and second planes is inverted with respect to the steganographic signal embedded in the third plane.

11. A method of reducing visual artifacts that are attributable to embedding steganographic components in media, wherein the media includes a plurality of channels, said method comprising:

embedding a first steganographic component in a first channel, wherein the embedding in the first channel affects a first pixel region; and

embedding a second steganographic component in a second channel, wherein the embedding in the second channel affects a second pixel region, and

wherein the first and second pixel regions spatially correspond to one another.

12. The method of claim 11 wherein at least one of the first channel and the second channel comprises a black channel.

13. The method of claim 11, wherein the first channel comprises a cyan channel, a magenta channel and a yellow channel, and the second channel comprises a black channel.

14. The method of claim 11, wherein the second channel comprises a cyan channel, a magenta channel and a yellow channel, and the first channel comprises a black channel.

15. A printed document including the embedded media of claim 11 printed thereon.

16. The printed document of claim 15, wherein at least one of the first steganographic signal and the second steganographic signal degrade upon scanning and reprinting.

17. A printed document including the embedded media of claim 13 printed thereon.

18. The method of claim 11, wherein the embedding in at least one of the first channel and second channel utilizes a transform domain.

19. The method of claim 11, wherein the second steganographic component comprises the first steganographic component but in an inverted form, and wherein the visual artifacts comprise a change in luminance that is attributable to the first steganographic component when printed.

20. The method of claim 11, wherein the visual artifacts comprise a change in luminance that is attributable to at least one of the first steganographic component and second steganographic component when printed.